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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,167	07/30/2003	James Albert Matthews	10030278-1	1888
57299	7590	02/13/2006	EXAMINER	
AVAGO TECHNOLOGIES, LTD. P.O. BOX 1920 DENVER, CO 80201-1920			YAM, STEPHEN K	
			ART UNIT	PAPER NUMBER
			2878	

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/632,167

Applicant(s)

MATTHEWS, JAMES ALBERT

Examiner

Stephen Yam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2005.
2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-7,10,11 and 19-23 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,4-7,10,11 and 19-23 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 05 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This action is in response to Amendments and remarks filed on December 5, 2005. Claims 1, 4-7, 10, 11, and 19-23 are currently pending.

Claim Objections

1. Claim 4 is objected to because of the following informalities:

Claim 4 depends upon cancelled Claim 3- for examination purposes, Examiner interprets that Applicant intended Claim 4 to depend upon Claim 1 (which incorporates the subject matter of original Claim 3).

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 4-7, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Lott US Patent No. 5,892,786.

Regarding Claim 1, Lott teaches (see Fig. 5) an apparatus comprising a substrate (see Fig. 5) and a diffractive optical element (pnp HPT detector, (p) DBR above the detector) (since a Bragg grating is a diffractive element) including a plurality of stacked layers of optically

transmissive material upon the substrate (see Fig. 5 and Col. 6, lines 34-64), wherein at least one of the layers ("pnp HPT detector") of optically transmissive material is a sensing element ("pnp HPT detector").

Regarding Claim 4, Lott teaches (see Fig. 5) a light source (generating laser output in the AQ active region) positioned to transmit light through the plurality of stacked layers of optically transmissive material of the diffractive optical element.

Regarding Claim 5, Lott teaches a control circuit coupled to the sensing element for measuring the response of the sensing element to incident light, and for controlling the light source (see Col. 2, lines 13-19).

Regarding Claim 6, Lott teaches the light source as a laser (see Col. 2, lines 60-61).

Regarding Claim 7, Lott teaches the resistance of the sensing element responsive to incident light (since a PIN photodiode is taught for use as the detector- see Col. 8, lines 54-62, and a photodiode operates by providing variable resistance dependent on the amount of incident light).

Regarding Claim 19, Lott teaches the temperature of the sensing element is responsive to light (since all objects increase temperature to some degree when impacted by laser energy).

4. Claims 1 and 20-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Swirhun et al. US Patent No. 5,577,064.

Regarding Claim 1, Swirhun et al. teach (see Fig. 1) an apparatus comprising a substrate (10) and a diffractive optical element (35) (since a Bragg grating is a diffractive element) (see Col. 5, lines 49-52) including a plurality of stacked layers (40, 45, 50) of optically transmissive

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material formed on the substrate (see Col. 6, lines 1-3), wherein at least one of the layers of optically transmissive material is a sensing element that is responsive to incident light (see Col. 5, lines 53-61).

Regarding Claim 20, Swirhun et al. teach at least two layers (40, 45, 50) of optically transmissive material as sensing elements that are responsive to incident light.

Regarding Claim 21, Swirhun et al. teach at least two adjacent layers (40+45 or 45+50) of optically transmissive material as sensing elements that are responsive to incident light.

Regarding Claim 22, Swirhun et al. teach at least two non-adjacent layers (40+50) of optically transmissive material as sensing elements that are responsive to incident light.

Regarding Claim 23, Swirhun et al. teach all of the layers of optically transmissive material as sensing elements that are responsive to incident light (see Col. 5, lines 53-61).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lott in view of Morris, Jr. et al. US Patent No. 6,452,669.

Regarding Claims 10 and 11, Lott teaches the apparatus in Claim 1, according to the appropriate paragraph above. Lott does not teach a first and second contact on the sensing element for measuring the resistance of the sensing element or the optically transmissive material

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including a semiconductor. Morris, Jr. et al. teach (see Fig. 4a) a similar device, with a first and second contact on a sensing element (20) for measuring the resistance of the sensing element (to receive the voltage and provide a flowing photocurrent through the photodiode- see Col. 3, lines 1-8) and a diffractive optical element (20, 30) and a plurality of stacked layers of optically transmissive material (see Fig. 4a) including a semiconductor (see Col. 2, lines 58-61). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a first and second contact on the sensing element for measuring the resistance of the sensing element or the optically transmissive material including a semiconductor, as taught by Morris, Jr. et al. in the apparatus of Lott, to improve the electrical transfer and operation characteristics of the sensing element utilize standard manufacturing materials to reduce costs.

7. Claims 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lott in view of Miller et al. US Patent No. 4,292,512.

Regarding Claims 20 and 22, Lott teaches the apparatus in Claim 1, according to the appropriate paragraph above. Lott does not teach at least two non-adjacent layers of optically transmissive material as sensing elements that are responsive to incident light. Miller et al. teach (see Fig. 3) a similar apparatus, with layers of optically transmissive material (see Fig. 3) with at least two non-adjacent layers (168, 170) of optically transmissive material as sensing elements that are responsive to incident light (see Col. 7, lines 45-55 and Col. 7, line 66 to Col. 8, line 8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide layers of optically transmissive material with at least two non-adjacent layers of optically transmissive material as sensing elements that are responsive to incident light, as taught

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by Miller et al., in the apparatus of Lott, to provide transceiver functions for the apparatus for use in an optical communications system having transmission power control.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jiang et al. US 5,974,071 and US 5,751,757, and Lebby et al. US 5,943,357, teach similar apparatuses for monitoring light from a laser.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Yam whose telephone number is (571)272-2449. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571)272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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THANH X. LUU
PRIMARY EXAMINER